

Charophyta Japonica (III).

Hideo MORIOKA

森岡英男：日本産車軸藻類(其三)

Subfam. **Chareae** v. LEONHARDI, Böhm. Charac. in Lotos, 73 (1863); Oesterr. Arml.-Gew., 40 (1864); SYDOW, Europ. Charac., 4 (1882); MIGULA in RABENH., Kryptog.-Fl. ed. 2, V, 252 (1890); HOLTZ in Kryptog.-Fl. Mark Brandenburg IV-1, 38 & 42 (1903).

Charae pleurogynae et *hypogynae* A. BRAUN in Ann. Sci. Nat. 2 ser. I, 353 (1834); Flora I, 57 & 58 (1835); in Linnaea XVII, 116 & 117 (1843); SONDER, Charac. in Inaug.-Diss., 25 (1890).

Chara A. BRAUN, Schweiz. Char., 12 (1849); in HOOKER, Journ. Bot. I, 200 & 294 (1849); KÜTZING, Spec. Alg., 516 (1849); WALLMAN, Fam. Charac., 39 (1856).

Characeae fam. *Chareae* A. BRAUN et NORDSTEDT, Fragm. Monog. Charac., 100 (1882).

Nitella sect. *Pseudobracteatae* WALLMAN, Fam. Charac. 33 (1854), p.p.

Nitella caudatae KÜTZING, Spec. Alg., 517 (1849) p.p.

Monoeica vel dioica. Caulis saepe corticatus. Ramuli verticilli 5-12, quam *Nitelleae* plus numerosi; segmenta ramuli quam *Nitelleae* plura. Stipulodia plerumque adsunt, rarissime desunt. Bracteae quam ramuli constanter valde breviores. Gametangia solitaria vel aggregata, lateralialia, ad ventralem nodorum ramuli, raro ad basin verticilli aggregata. Antheridia lateralialia, sessilia. Oogonia majora pluristriata; coronula oogonii 5-cellularia, quam *Nitelleae* major, persistens.

Gen. **Chara** VAILLANT in Acta Acad. Gall. t. 3 (1719); L. Gen. Pl. ed. 5, 491 no. 1066 (1754); emend. HOFFMANN, Deutsch. Fl. 2 Aufl. I-2, 185 (1804), pro parte; AGARDH, Syst. Alg., 27 (1824); GMELIN, Fl. Bad. III, 593 (1808), pro parte; A. BR., Schweiz. Charac., 12 (1849); LEONHARDI, Böhm. Charac. in Lotos, 72 (1863); Oesterr. Arml.-Gew., 40 (1864); A. BR. et NORDST. Fragm. Monog. Charac., 105 (1882); SYDOW, Europ. Charac., 5 (1882); GROVES in Journ. Bot. IX, 101 (1880); SONDER, Charac. in Inaug.-Diss., 29 (1890); MIGULA in RABENH., Kryptog.-Fl. ed. 2, V, 299 (1891); HOLTZ in

Kryptog.-Fl. Mark Brandenburg IV-1, 39, 44 (1903).

Charae hypogynae A. BR. in Flora, 58 (1835); in Linnaea XVII, 117 (1843).

Charae bracteatae A. BR., Schweiz. Charac., 12 (1849); KÜTZING, Spec. Alg., 516 (1849).

Chara Subgen. *Chara* A. BR. in HOOKER, Journ. Bot. I, 200 & 294 (1849) ex p.

Chara sect. *Polysiphonicae* WALLMAN, Fam. Charac., 50 (1854).

Chara sect. *Monosiphonicae* WALLMAN, l.c., 44 (1854) p.p.

Chropsis KÜTZING, Phycol. gener., 319 (1843) p.p.

Monoeica vel dioica, saepe incrustata. Stipulodia constanter adsunt, 1-2 (rarissime 3-)seriata. Caulis ecorticatus vel corticatus; numerus cellularum corticis et ramulorum verticilli aequalis (Haplostichae) vel cellulae corticis quam ramuli verticilli duplae vel triplae (Diplostichae et Triplostichae); cellula primaria quam secundaria prominentior vel non prominentior, saepe 1-3-aculeolata interdum inchoata. Ramuli verticilli 6-15, corticati vel ecorticati, non furcati; segmenta ramulorum 4, vel ultra, potius longa; bracteae 4 vel ultrae, saepe tantum in ventralibus ramulorum. Gametangia ad nodos vulgo inferiora, si monoeica oogonia supra antheridia, raro ad basin verticilli aggregata. Oogonia solitaria vel geminata, vulgo magna; cellulae spirales 10-15-striatae; coronula magna, 5-cellulata. Oospora ovoidea vel ellipsoidea raro cylindrica; membrana nigra vel brunnea raro fulva, incrustata, levis.

Uebersicht der Arten, über die bisher bekannten japanischen Chareen.

- 1) Stipulodia in serie una *Haplostephanae* A. BR.
- 2) Caules et ramuli utraeque admodum ecorticati *Ecorticatae* A. BR.
 - 3) Gametangia ad basin verticillorum aggregata. Stipulodia fere inchoata 1) *C. corallina*
 - 3) Gametangia ad basin verticillorum nulla. Stipulodia plus minus elongata, raro inchoata 4) *C. Braunii*
- 2) Caules corticati *Corticatae* A. BR.
 - 3) Ramuli perfecte ecorticati.
 - 4) Ramuli verticillorum normaliter 10-12, ca. 5-segmenti. Oogonia et antheridia conjuncta.
 - 5) Oospora matura nigra (*C. gymnopitys*)
 - 5) Oospora matura aureo-flava (*C. flaccida*)
 - 4) Ramuli verticillorum 12-14, segmentis (5)-6. . 2) *C. Bentharii*
 - 3) Ramuli partim corticati, segmento infimo constanter ecorticato. (adhuc ignota in Japonia)

- 1) *Stipulodia* in series duobus *Diplostephanae* A. BR.
- 2) Numerus cellularum corticis caulium et numer. ramulorum verticilli aequalis *Haplostichae* (adhuc ignota in Japonia)
- 2) Cellulae corticis caulium quam ramuli verticilli duplae *Diplostichae* A. BR.
- 3) Series primaria corticis caulium quam secundaria plus prominens *Tylacanthae* A. BR. (adhuc ignota in Japonia)
- 3) Series primaria corticis caulium quam secundaria depressa *Aulacanthae* A. BR.
- Et caules et ramuli corticati. Oospora parva. Aculei solitarii (*C. foetida*?)
- 2) Cellulae corticis caulium quam ramuli verticilli triplae *Triplostichae* A. BR.
- 3) Segmenta infima ramulorum corticata. *Stipulodia* et aculei inchoata 5) *C. fragilis*
- 3) Segmenta infima ramulorum ecorticata. *Stipulodia* et aculei elongata, acuta 3) *C. zeylanica*

1) **Chara corallina** KLEIN ex WILLDENOW in Act. Acad. Berol., (1803) 61; PERSON, Syn. II, 530 (1807); KÜTZING, Spec. Alg., 519 (1849); A. BRAUN, in HOOKER, Journ. Bot. I, 294 (1849); WALLMAN, Fam. Carac., 48 (1854); A. BR. et NORDST. Fragm. Monog. Charac., 108 (1882); GROVES in Journ. Linn. Soc. Bot. XLVI, 102 (1922) et 371 (1924); PAL in Journ. Linn. Bot. XLIX, 80 (1932); AGHARKER et KUNDU in Calcutta Univ. Journ. Depart. Sci. I-1, 11 (1937) cum icon.

Planta monoeica, omnino ecorticata, smaragdina, in exsiccato nitida. Caulis robustus, 900–1200 μ diametro; internodia quam ramuli plerumque breviora. *Stipulodia* uniserialia, minima, acuta. Verticilli ramulorum 6, recti ecorticati, segmentis 4–(3); cellula ultima minor, 600–1000 μ longa et ad apicem angustati-acuta. Ramuli in longitudine variables, vulgo 3–6 cm longi, interdum maximi ad 9.5 cm longi, nodis omnibus bracteatis, bracteis 3–5, brevibus, acutis, conicis.

Gametangia solitaria vel geminata, ad nodos inferiores et praecipue in basi verticillorum numerosa. Antheridium 450–590 μ latum. Oogonia magna 1275 μ longa, 750 μ lata; cellulae apirales 7–8-convolutae; coronula 120–140 μ alta. Oospora nigra, ovali-ellipsoidea, 6–7-convolutis. Saepe internodia ramorum fertilium abbreviata, cum ramulis congestis.

Hab. in Hondo. Prov. Simousa; in lacu Teganuma (Ego ipse, no. 46, Oct. 15; no. 67, Nov. 5; no. 83, Nov. 25, 1939); in lacu Inbanuma (Ego ipse,

no. 72, Nov. 12, 1939).

Distr. Asia trop. (Nova ad Japoniam).

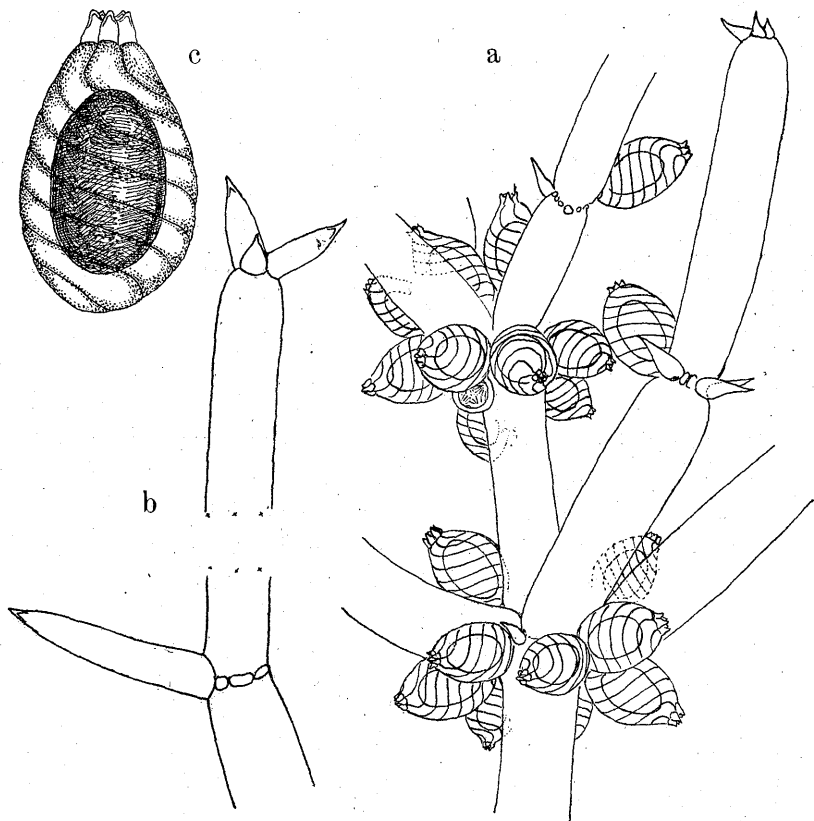


Fig. 10. *Chara corallina* KLEIN

a. Pars ramulorum cum oogoniis et antheridiis ($\times 30$); b. Pars ramulorum ($\times 30$); c. Oogonium ($\times 90$).

2) **Chara Bentharii** A. BRAUN (non NORDST.) in Monatsb. Akad. Wiss. Berl. (1868) 799; GROVES in Journ. Linn. Soc. Bot. XLVIII, 134 (1928); AGHARKAR et KUNDU in Calcutta Univ. Journ. Depart. Sci., I-1, 14 (1937) cum icon.; ZANEVELD in Blumea III-2, 380 (1939); MORIOKA in NAKAI, Iconograph. Plant. Asiae Orient. IV-1, p. 336, Tab. CXII (1941).

Nom. Jap. *Kenaga-Syazikumo*.

Hab. in Hondo. Prov. Simousa: in lacu Inbanuma (Ego ipse, no. 71, Nov. 12, 1939). Prov. Mutu: in lacu Zyûsanko (K. HÔGETU, no. 88, Sept. 30, 1940).

Distr. Asia (Hongkong?, India), Australia, Madagascar. (Nova ad Japoniam).

3) ***Chara zeylanica*** WILLDENOW in Mém. Acad. Roy. Sci. Berl., (1803) 86; PERSOON, Syn. II, 530 (1807); GROVES in Journ. Linn. Soc. Bot. XLVI, 102 (1922), 375 (1924); XLVIII, 136 (1928); PAL in Journ. Linn. Soc. Bot. XLIX, 88 (1932); AGHARKAR et KUNDU in Calcutta Univ. Journ. Depart. Sci. I-1, 18 (1937) cum icon.; ZANEVELD in Blumea III-2, 381 (1939).

Chara ceylonica KLEIN ex WALLMAN, Fam. Charac., 56 (1854).

Chara gymnopus A. BRAUN, Charac. Afrik. 800 & 870 (1847); A. BRAUN et NORDST., Fragm. Monog. Charac., 189 (1882); NORDSTEDT in Hedwigia XXVII, 192 & 194 (1888); Alg. et Charc., 40 (1889); ASKENASY, Alg. in Forsch. Gazelle IV, 152 (1888).

Chara polyphylla A. BRAUN in HOOKER, Journ. Bot. I, 299 & 300 (1848); KÜTZING, Spec. Alg., 522 (1849); WALLMAN, Fam. Charac., 56 (1854).

Chara zeylonica WILLD. ex KÜTZING, Spec. Alg., 522 (1849).

Caulis potius robustus, 500 μ crassus; internodia quam ramuli breviora. Verticilli ramulorum ca. 10, patentes. Segmenta ramuli 11-13, cuius 1-2 apicales et 1 basales ecorticati. Stipulodia acuta, biseriata, bene evoluta. Cortex triplostichus; series primaria quam secundaria plus prominens. Aculei plerumque breviores, conici, sed in ramis juvenilibus paulum longiores, 200-320 μ longi, solitarii vel geminati, acuti. Bractee 4-7 acutae; bracteolae quam oogonia longiores.

Gametangia in nodis basalibus gerentia, sed nodi infimi interdum steriles. Oogonia 1180-1220 μ (coronula incl.) longa, 530-600 μ lata; cum cellulis spirali-bus 15-16-convolutis; coronula recta, 140-190 μ longa et basi 270 μ lata. Oospora 615 μ longa, 400 μ lata, ovoideo-cylindrica cum costis convolutis 12-15; membrana nigra.

Hab. in Hondo. Prov. Simousa; in lacu Inbanuma (Ego ipse, no. 70, Nov. 12, 1939); Prov. Hôki; in lacu Togoike (K. HISAUTI, Aug. 22, 1927).

Distr. Asia, Africa, America in reg. trop. et subtrop. (Nova ad Japoniam).

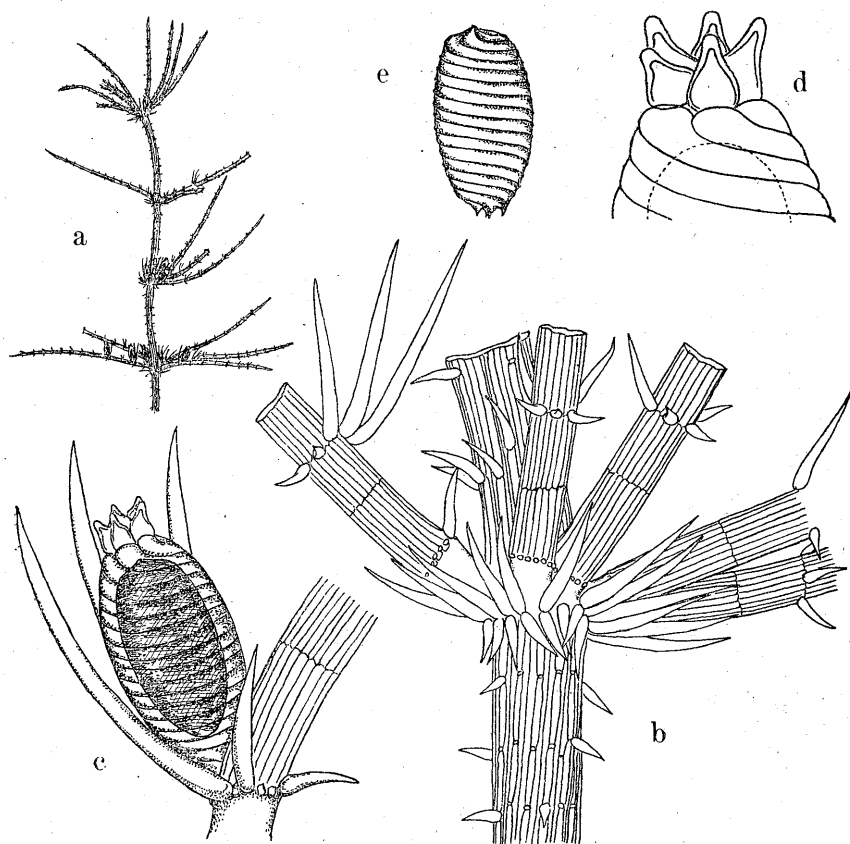


Fig. 11. *Chara seylanica* WILLD.

a. Pars plantae ($\times 1.5$); b. Pars ramulorum ($\times 20$); c. Oogonium ($\times 30$);
d. Collonula oogonii ($\times 55$); e. Oospora ($\times 30$).